



## Bio Identical Hormone Replacement Therapy (BHRT) Guidelines

### PATIENTS WITH UTERUS

- 1 Progesterone is replaced topically or buccally at 50 to 100 mg/day
- 2 Triest 1 25 mg sublingually twice daily until symptoms are fully controlled  
Triest 1 25 mg twice-daily dose consisting of:
  - > estrone (E<sub>1</sub>) 0.125 mg
  - > estradiol (E<sub>2</sub>) 0.125 mg
  - > estriol (E<sub>3</sub>) 1.00 mg

After 6 months the dose of the Triest is reduced to 1.25 mg sublingually **once** daily (estriol portion reduced to 1.0 mg daily instead of 2.0 mg/day)

Triest 1.20 mg **once** daily dose consisting of:

- > estrone (E<sub>1</sub>) 0.10 mg
- > estradiol (E<sub>2</sub>) 0.10 mg
- > estriol (E<sub>3</sub>) 1.00 mg

The Triest dose is gradually reduced over time to 0.60 mg sublingually **once** daily (estriol portion reduced to 0.50 mg/day) The estrone and estradiol are also reduced

Triest 0.60 mg **once** daily dose consisting of:

- > estrone (E<sub>1</sub>) 0.05 mg
- > estradiol (E<sub>2</sub>) 0.05 mg
- > estriol (E<sub>3</sub>) 0.50 mg

### PATIENTS WITH TOTAL HYSTERECTOMY

- 1 Progesterone is replaced topically or buccally at 10 to 25 mg/day
- 2 Triest 1 25 mg sublingually twice daily until symptoms are fully controlled  
Triest 1 25 mg twice-daily dose consisting of:
  - > estrone (E<sub>1</sub>) 0.125 mg
  - > estradiol (E<sub>2</sub>) 0.125 mg
  - > estriol (E<sub>3</sub>) 1.00 mg

After 6 months the dose of the Triest is reduced to 1.25 mg sublingually **once** daily (estriol portion reduced to 1.0 mg/day instead of 2.0 mg/day)

Triest 1.20 mg **once** daily dose consisting of:

- > estrone (E<sub>1</sub>) 0.10 mg
- > estradiol (E<sub>2</sub>) 0.10 mg
- > estriol (E<sub>3</sub>) 1.00 mg

The Triest dose is gradually reduced over time to 0.60 mg sublingually **once** daily (estriol portion reduced to 0.50 mg/day) The estrone and estradiol are also reduced

Triest 0.60 mg **once** daily dose consisting of:

- > estrone (E<sub>1</sub>) 0.05 mg
- > estradiol (E<sub>2</sub>) 0.05 mg
- > estriol (E<sub>3</sub>) 0.50 mg

Guidelines are meant as reference only and are the opinion of PenCol Medisave Pharmacy's Pharmacist staff, based of their experiences. They are not indicating a recommendation for any product for a patient or for any clinical situation. Individual dosage determined by the patient's physician

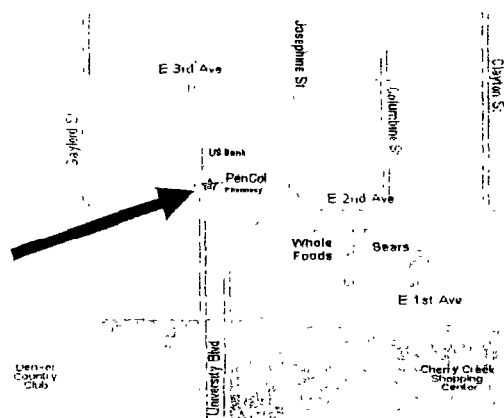
**PENCOL**  
MEDISAVE  
PHARMACY

Compounding Specialists

**BHRT Specialists**  
**Patient Consultations**  
**Saliva Testing**  
**Monthly BHRT Seminars**  
**Metro Denver Delivery**  
**UPS and U.S. Mail Shipping**

**Store Hours & Prescription Pickup**  
**Monday - Friday 9 AM - 5:45 PM**  
**Saturday 9 AM - 12:45 PM**

**PenCol Medisave Pharmacy**  
**210 University Boulevard**  
**U S Bank Building #230**  
**Denver, CO 80206**  
**Phone (303) 388 - 3613**  
**Fax (303) 388 - 6182**



**Marshall Tobin, R.Ph.**  
**Ted Keller, R.Ph.**  
**Susan Davenport, R.Ph.**  
**Miles Doane, Pharm.D., R.Ph.**



Beginning or Conversion  
to

## Bio-Identical Hormone Replacement Therapy (BHRT)

**ESTRONE (E<sub>1</sub>)**

**ESTRADIOL (E<sub>2</sub>)**

**ESTRIOL (E<sub>3</sub>)**

**PROGESTERONE**

**TESTOSTERONE**

**PENCOL**  
MEDISAVE  
PHARMACY

Compounding Specialists

**210 University Boulevard**  
**U. S. Bank Building #230**  
**Denver, CO 80206**  
**(303) 388 - 3613**

## BIO-IDENTICAL HORMONE REPLACEMENT THERAPY (BHRT)

PenCol Medisave Pharmacy has been compounding bio-identical hormones for the last several years. We have over 5,000 patients correctly and safely using these products with few side effects, alleviating uncomfortable symptoms, and decreasing the potential long-term risks that come along with synthetic hormone replacement. Our pharmacists are happy to help your patients begin using bio-identical hormones or make the conversion to bio-identical from synthetic hormones.

Bio-identical Hormone Replacement Therapy (BHRT) used in the treatment of menopause is any combination of bio-identical estrogen, progesterone, and testosterone at levels determined by the physician specifically for each patient. BHRT offers the physician an option to individualize hormone replacement based on the patient's symptoms and hormone profile.

### SYNTHETIC AGENTS

Synthetic hormones are either synthetically created or chemically modified animal hormones. They are estrogen copies of estradiol, used in combination with synthetic Progestin. The synthetic agents (Prempro, Estratest, Provera, Premarin, etc.) are molecular cousins of the natural agents-estrogen, progesterone, and testosterone. They are neither structurally identical nor identical in activity to the natural hormones they attempt to emulate.

### WHAT ARE BIO-IDENTICAL HORMONES

Hormones used in BHRT are plant-based hormones that are extracted from soybean and wild yams. They are molecularly (biochemically) identical to true major ovarian steroid hormones: progesterone, estradiol, and testosterone. They are indistinguishable from those the human body produces, identical in structure and function, and readily accepted by the human body

## BENEFITS OF BHRT

- Synthetic derivative side effect reduction or complete resolution, e.g bloating, breast tenderness, and irregular bleeding
- Side effects are usually dose related and correct when the proper dose is dispensed
- Dosage is adjustable and individualized for the patient's needs and goals
- A broader spectrum of hormones, at lower doses, providing a more complete, physiological balance

PenCol pharmacists compound customized prescriptions for BHRT for progesterone, testosterone, and the three human estrogens: estrone (E<sub>1</sub>), estradiol (E<sub>2</sub>), estriol (E<sub>3</sub>). We only utilize FDA approved USP chemicals from licensed, reputable laboratories in our compounding processes.

BHRT is generally administered in the form of a troche (lozenge) or as a transdermal cream. The pleasantly flavored lozenge is dissolved and the ingredients easily passed through the membrane of the mouth directly into the bloodstream in a way that emulates the glands as closely as possible. When appropriate, topical replacement is utilized as it also avoids the digestive tract and liver.

The effectiveness of BHRT is evaluated by the physician, monitoring symptoms, physical findings, blood or saliva level testing of hormone levels, cholesterol levels, bone density, breasts (mammography), uterine lining, etc.



## GOALS OF BIO-IDENTICAL HORMONE REPLACEMENT

- Alleviate the symptoms of menopause
- Use only hormones that are the exact molecules made by the human endocrine system
- Avoid the digestive tract and liver, minimizing first-pass effects and SHBG (Sex Hormone Binding Globulin) elevation
- Introduce hormones into the bloodstream closely emulating glandular delivery
- Produce fewer side effects than synthetic hormones
- Slowly decrease the level of hormones over time as symptoms are controlled
- Discontinue use of hormones when possible

### BIO-IDENTICAL HORMONE REPLACEMENT

- A combination of one or more of the estrogens, estrone (E<sub>1</sub>), estradiol (E<sub>2</sub>), estriol (E<sub>3</sub>), is often used in BHRT. Frequently recommended combinations are referred to as Biest (estriol & estradiol) or Triest (estriol & estradiol & estrone). Replacement is topical or via sublingual route to prevent SHBG elevation.
  - Estrone (E<sub>1</sub>) (approximately 10-20% of circulating estrogens)
  - Estradiol (E<sub>2</sub>) (approximately 10-20% of circulating estrogens)
  - Estriol (E<sub>3</sub>) (approximately 60-80% of circulating estrogens)
- Progesterone is replaced topically at 50 to 100 mg/day in patients with uterus and 10 to 25 mg/day in patients with a total hysterectomy
- Testosterone is replaced sublingually or topically if needed, at a dose of 0.25mg/day to 2 mg/day

**(303) 388 – 3613**

PenCol Medisave Pharmacy  
BHRT Compounding Specialists